



GEM MINING RELATED ENVIRONMENTAL PROBLEMS IN SRI LANKA

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At present, there are about half a million families depending on this industry.

There are about 50 employees for each gem pit.

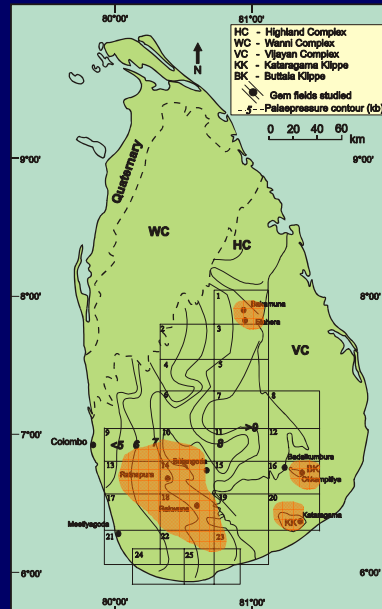
Year 2003

Sri Lanka earned \$ 54.5 million

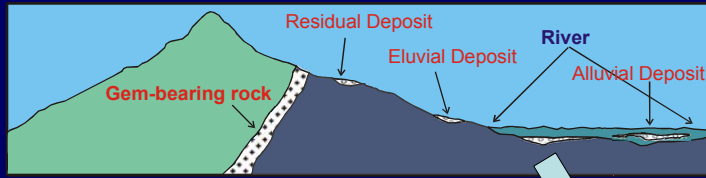
> 90 % all mineral exports in the country



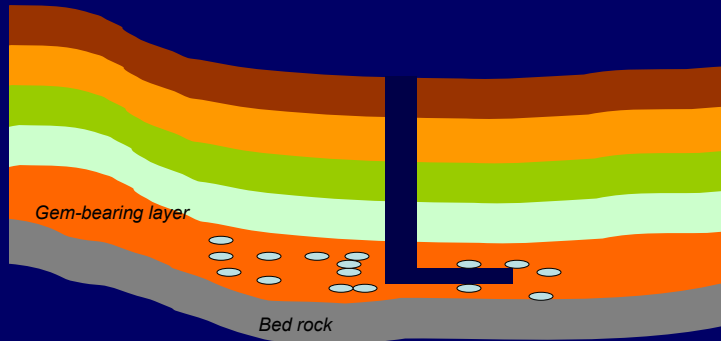
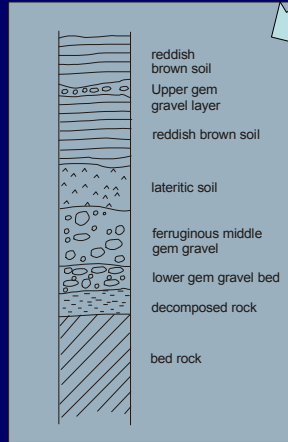
Employees earn their day to day living by taking a weekly income and when gems are found in these pits the workers also get a negligible share by way of a bonus in most instances.



Gem deposits lie within a geologically narrow zone and many gem fields have been located in the central highlands and southwestern geological formations.



Gem bearing gravels are obtained from eluvial, alluvial and residual formations.



Traditional pit and tunnel mining methods are common in all the gem fields in Sri Lanka. Pits are generally confined to marshy terrain and paddy lands, located in bottom of valleys.

In pitting, shafts are made to reach where deeper levels of pay gravel exist. Tunnels are made to collect the gem-bearing gravels.



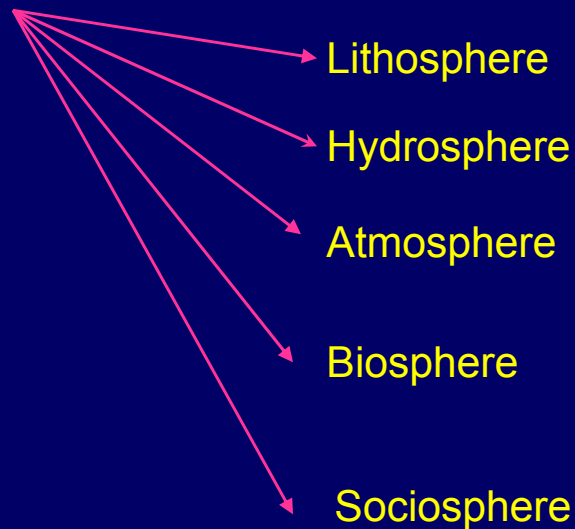
Gems are also mined from riverbed material by a method of dredging with mammoties having long handles.

There are thousands of legal and illegal gem pits being operated annually which provides income to people.

Most of the labour involved in the gemming industry is from low income groups while their efforts contribute to nearly 60% of the total income from mineral exploitation in Sri Lanka.

Despite the relatively high economic and social benefits gem mining cause significant **environment damages**.

Total Environment



Effect on Lithosphere

- Increasing soil erosion
- River-bank erosion
- Sedimentation
- Flooding and landslides





Effect on Hydrosphere

- Water pollution
- Groundwater depletion
- Reduction of irrigation efficiency

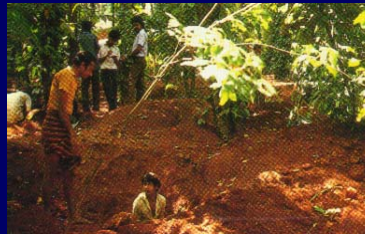
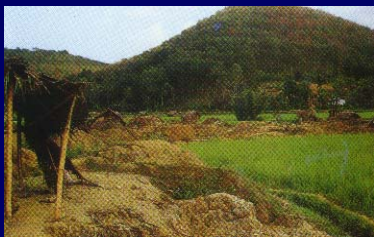


.....dumping tons of mine tailings into the local river system daily.



Effect on Biosphere

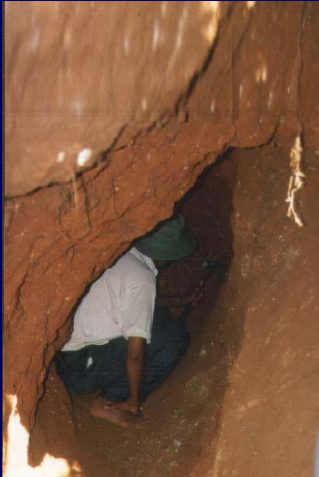
- removal of vegetation cover
- risk and/or damage to wild fauna and flora



Effect on Sociosphere

- Sociological problems
- Health problems such as malaria
- Reduction of potential of agricultural lands
- Structural damages





Existing weaknesses.....

1. Lack of awareness of environmental issues among the community:

Communities affected by mining operations and interested organizations need to gain an understanding of how their lives are affected.

For example, the release of polluted effluents particularly suspended matters to a local watercourse creates a serious danger of polluted water, which affects people, fish and micro-organisms.

Existing weaknesses.....

2. A lack of legal support:

No legal support is provided to communities facing the negative effects of mining activities.

3. Lack of monitoring systems

4. Lack of continuous environmental impact assessments

Existing weaknesses.....

5. Weaknesses in government co-ordination and enforcement

Business profitability and the regional and national economy are seen as of paramount interest.

Management aims to reduce rather than prevent effects: For example, mining activities do not address preventing damage to natural resources such as soil, fauna, flora, protected species, sensitive habitats and ecosystems, cultural and historical sites, archaeological sites, surface water, groundwater, marine water and air.

Existing weaknesses.....

6. Lack of involvement of NGOs

